

CLAIMS

What is claimed is:

1. An compression limiter comprising:

a body portion having an upper surface and a lower surface;

5 a plurality of protrusions extending from said lower surface of said body portion to apply a load to a component when a force is applied to said upper surface of said body portion.

10 2. The compression limiter as recited in claim 1 wherein said compression limiter is formed of a high carbon steel.

3. The compression limiter as recited in claim 1 wherein said plurality of protrusions extend 90° from said body portion.

15 4. The compression limiter as recited in claim 1 wherein said body portion of said compression limiter is substantially cylindrical and forms a limiter bore.

20 5. The compression limiter as recited in claim 1 wherein each of said plurality of protrusions of said compression limiter further includes an angled portion located between said body portion and each of said plurality of feet.

6. The compression limiter as recited in claim 1 wherein a fastener is inserted within a limiter bore of said compression limiter and applies said force to said upper surface of said body portion of said compression limiter.

7. An intake manifold assembly comprising:

an intake manifold including a plurality of manifold apertures, each of said plurality of manifold apertures having a foot portion of larger diameter than said manifold aperture;

a plurality of compression limiters each positioned within one of said plurality of manifold apertures including a body portion having an upper surface, a lower surface, and a limiter bore, and a plurality of protrusions extending from said lower surface of said body portion and being received by said foot portion of said intake manifold to apply a load to a component when a force is applied to said upper surface of said body portion, said limiter bore being substantially aligned with a component aperture; and

a plurality of fasteners each passing through one of said aligned limiter apertures and to extend into component apertures to secure said intake manifold to said component.

8. The assembly as recited in claim 7 wherein said compression limiter is formed of a high carbon steel.

9. The assembly as recited in claim 7 wherein said plurality of protrusions extend 90° from said body portion.

10. The assembly as recited in claim 7 wherein said body portion of said compression limiter is substantially cylindrical and forms a limiter bore.

11. The assembly as recited in claim 7 wherein said load is applied by said plurality of fasteners.

5 12. The assembly as recited in claim 7 wherein each of said plurality of protrusions of said compression limiter further includes an angled portion located between said body portion and each of said plurality of feet.

10 13. The assembly as recited in claim 7 wherein fastener is inserted within a limiter bore of said compression limiter and applies said force to said upper surface of said body portion of said compression limiter.

14. A method to form a compression limiter for a manifold assembly comprising the steps of:

forming a plurality of protrusions along a lower edge of a sheet of stock; and
roll forming said sheet of stock to form said compression limiter.

15. The method as recited in claim 14 wherein said sheet of stock is a high carbon steel.

16. The method as recited in claim 14 wherein the step of forming said plurality of protrusions further include stamping a plurality of notches along said lower edge of said sheet of stock and bending said plurality of notches to form said plurality of protrusions so that said plurality of protrusions are 90° from said sheet of stock.

17. The method as recited in claim 14 wherein the step of roll forming said sheet of stock further includes bringing a pair of opposing edges of said sheet of stock substantially proximate, creating a gap therebetween.

18. The method as recited in claim 14 wherein the method of forming said compression limiter further comprises forming a plurality of angled portions along said lower edge of said sheet stock, said plurality of angled portions being located between a body portion of said compression limiter and said plurality of protrusions.